

6. CLAIMS:

1. An optical module comprising:

a substrate provided with a groove that is formed in a surface thereof, the groove having a first slope crossing the surface of the substrate at an obtuse angle and a second slope facing to the first slope and crossing the surface of the substrate at an obtuse angle;

an optical element mounted on the substrate; and

an optical part put in the groove;

wherein an adhesive is applied to a portion of at least the second slope except the first slope of the groove so as to fix the optical part in the groove in a structure in which the optical part is in contact with or in the proximity of the first slope and the second slope.

2. An optical module as claimed in claim 1, wherein the adhesive is an ultraviolet ray curable type epoxy resin.

3. An optical module comprising:

a silicon substrate provided with a V-shaped or trapezoidal groove that is formed in the surface of the silicon substrate by anisotropic etching, the groove having a first slope and a second slope facing to the first slope and crossing the surface of the substrate at an obtuse angle;

an optical element mounted on the silicon substrate;  
and

an optical part put in the groove;

wherein an adhesive is applied to a portion of at least the second slope except the first slope of the groove so as to fix the optical part in the groove in a structure in which the optical part is in contact with or in the proximity of the first slope and the second slope.

4. An optical module as claimed in claim 3, wherein the adhesive is an ultraviolet ray curable type epoxy resin.

5. A method for manufacturing an optical module, comprising:

a groove forming step of forming a groove in a surface of a substrate, the groove having a first slope crossing the surface of the substrate at an obtuse angle and a second slope facing to the first slope and crossing the surface of the substrate at an obtuse angle;

a optical element mounting step of mounting an optical element on the substrate having the groove formed in the groove forming step;

an optical part putting step of applying an adhesive to a portion of at least the second slope except the first slope of the groove formed in the groove forming step and putting the optical part in the groove in such a manner as to be in contact with or in the proximity of the first slope and the second slope; and

an adhesive curing step for curing the adhesive

applied in the optical part putting step.

6. A method for manufacturing an optical module, comprising:

a groove forming step of forming a V-shaped or trapezoidal groove in a surface of a silicon substrate by anisotropic etching, the groove having a first slope and a second slope facing to the first slope;

an optical element mounting step of mounting an optical element on the surface, of the silicon substrate, having the groove formed in the groove forming step;

an optical part mounting step of applying an adhesive to a portion of at least the second slope except the first slope of the groove formed in the groove forming step and putting the optical part in the groove in such a manner as to be in contact with or in the proximity of the first slope and the second slope; and

an adhesive curing step of curing the adhesive applied in the optical part putting step.